

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL

PERMITTEE

Baxter Healthcare Corporation
Attn: Jeffrey Wynveen
Route 120 & Wilson Road
Round Lake, Illinois 60073-4090

Application No.: 73031659

I.D. No.: 097807AAE

Applicant's Designation:

Date Received: October 22, 2001

Subject: Technology Park Campus

Date Issued:

Expiration Date:

Location: Route 120 & Wilson Road, Round Lake

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of nine diesel/generators, one natural gas-fired generator, two natural gas-fired boilers with fuel oil backup, eight natural gas-fired boilers, a pathological waste incinerator controlled by afterburner, plastic extrusion lines, a filter integrity testing operation, three ethylene oxide sterilizers, a passivation operation, a solvent re-packaging operation, three electrical discharge machines, and a spray paint booth pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., less than 100 tons/year for nitrogen oxides (NO_x) and 25 tons/year for volatile organic materials (VOM)), as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) issued for this location.
- 2a. This permit is issued based upon the ethylene oxide sterilizers not being subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) for Ethylene Oxide Emissions from Sterilization Facilities, 40 CFR 63, Subparts O. This determination is a consequence of ethylene oxide usage being less than applicability threshold of 1 ton/year (40 CFR, 63.360(b)).
- b. The Permittee shall maintain records of ethylene oxide use on a 12-month rolling basis, pursuant to the NESHAP, 40 CFR 63.367(c). These records shall be kept on site at the source for a period of 5 years.

3. Ethylene oxide usage and emissions of volatile organic material (VOM) from the three ethylene oxide sterilizers shall not exceed 1 ton/year. Compliance with annual limits shall be determined on a running total of 12 months of data.
- 4a. This permit is issued based upon the pathological waste incinerator being classified as co-fired combustor and not being subject to the control requirements of 35 Ill. Adm. Code Part 229, Hospital/Medical/Infectious Waste Incinerators (HMIWI). This determination is a consequence of medical/infectious waste comprising less than 10% of total stream of waste being incinerated (Section 229.110(d)).
- b. The owner or operator of an HMIWI shall keep records on a calendar quarter basis of the weight of medical/infectious wastes and total amount of waste being incinerated. These records shall be maintained onsite for a period of 5 years, in either paper copy or electronic format and shall be available to the Illinois EPA upon request.
5. No person shall cause or allow the emission of particulate matter into the atmosphere from the incinerators to exceed 229 mg/scm (0.1 gr/scf) of effluent gases corrected to 12 percent carbon dioxide pursuant to 35 Ill. Adm. Code 212.181.
6. No person shall cause or allow the emission of carbon monoxide into the atmosphere from any incinerator to exceed 500 ppm, corrected to 50 percent excess air pursuant to 35 Ill. Adm. Code 216.141.
7. Operation and emissions of the pathological waste incinerator shall not exceed the following limits:

Waste Charging Rate: 90 Tons/Mo, 520 Tons/Yr

<u>Pollutant</u>	<u>Emission Factor</u> (Lb/Ton)	<u>Emissions</u>	
		(Ton/Mo)	(Ton/Yr)
Nitrogen Oxides (NO _x)	3.56	0.2	0.9
Carbon Monoxide (CO)	2.95	0.1	0.8
Particulate Matter (PM)	2.0	0.1	0.5

These limits are based on standard emission factor for NO_x and CO and allowable emission rate per Section 212.181 and actual operational conditions during the stack test for PM. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

8. The afterburner combustion chamber of the pathological waste incinerator shall be preheated and maintained at the manufacturer's recommended temperature but not lower than 1400⁰F. This temperature shall be maintained until burnout of waste in the primary chamber is completed.
9. The Permittee shall comply with Nuclear Regulatory Commission procedures and requirements for storage of waste, waste incineration, emissions, ash handling and ash disposal methods for all radioactive waste.

- 10a. Emissions of sulfur dioxide (SO₂) from the fuel oil burning boilers and diesel/generators shall not exceed 0.3 lbs/mmBtu in any one hour period while burning distillate fuel oil, pursuant to 35 Ill. Adm. Code 214.122(b)(2) and 214.304, respectively.
- b. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in the boilers and diesel/generators with a sulfur content greater than the larger of the following two values pursuant to 35 Ill. Adm. Code 214:
- i. 0.28 weight percent, or
- ii. The wt. percent given by the formula: Maximum wt. percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).
11. Operation and emissions from the boilers and engines shall not exceed the following limits:

a. Boilers:

i. Natural Gas firing mode:

Natural Gas Usage: 140 mmscf/Mo, 800 mmscf/Yr

<u>Pollutant</u>	<u>Emission Factor (lb/mmscf)</u>	<u>Emissions (Ton/Mo) (Ton/Yr)</u>	
Nitrogen Oxides (NO _x)	100	7.0	40.0
Carbon Monoxide (CO)	84	5.9	33.6
Particulate Matter (PM)	7.6	0.5	3.0
Volatile Organic Materials (VOM)	5.5	0.4	2.2

ii. Distillate Fuel Oil #2 firing mode:

Fuel Oil Usage: 110,000 gal/Mo, 440,000 gal/Yr

<u>Pollutant</u>	<u>Emission Factor (Lb/10³ gal)</u>	<u>Emissions (Ton/Mo) (Ton/Yr)</u>	
Nitrogen Oxides (NO _x)	20	1.1	4.4
Sulfur Dioxide (SO ₂)	42.6	2.3	9.4

b. Diesel/generators (total):

Fuel Oil Usage: 15,000 gal/mo, 80,000 gal/yr

<u>Pollutant</u>	<u>Emission Factor (Lb/10³ gal)</u>	<u>Emissions (Ton/Mo) (Ton/Yr)</u>	
Nitrogen Oxides (NO _x)	448	3.4	17.9
Carbon Monoxide (CO)	119	0.9	4.8
Sulfur Dioxide (SO ₂)	42.4	0.3	1.7

- c. Natural gas-fired emergency generator:

Natural gas usage rate: 486 scf/hr; Operating hours: 6,000 hr/yr

<u>Pollutant</u>	<u>Emission Factor (lb/mmscf)</u>	<u>Emissions (Ton/Yr)</u>
Nitrogen Oxides (NO _x)	2,840	4.1
Carbon Monoxide (CO)	399	0.6
Volatile Organic Materials (VOM)	116	0.2

These limits define the potential emissions and are based on the standard emission factors given by AP-42. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

- 12. Usage of Isopropyl Alcohol in the plastic extrusion lines and filter integrity testing operations and VOM emissions shall not exceed 2.0 ton/month and 11.2 tons/year. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.
- 13. This permit is issued based upon painting operations not being subject to VOM control requirements of 35 Ill. Adm. Code 218.204 due to exemption provision of 218.208(a): daily VOM emissions do not exceed 15 lb/day. The VOM emissions from painting operations shall not exceed 1.0 tons/yr.
- 14. This permit is issued based on negligible emissions of volatile organic material from the three electrical discharge machines, and the solvent re-packaging operation. For this purpose, emissions from each emission unit shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 15. This permit is issued based on negligible emissions of nitrogen oxides (NO_x) and volatile organic material (VOM) from the passivation operation. For this purpose, emissions of each contaminant shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 16. The Permittee shall maintain records of the following items:
 - a. Ethylene oxide usage in the sterilizers (lbs/month and tons/year);
 - b. The amount of waste burned in the incinerator (tons/month and tons/year);
 - c. Natural gas usage (mmcf/month and mmcf/year);
 - d. Fuel oil usage, separately for the boilers and diesel/generators, (gallons/month and gallons/year);
 - e. Operating hours of the natural gas-fired generator (hours/month and hours/year);

- f. Isopropyl alcohol usage in the extrusion lines and the filter integrity testing (gallons/month and gallons/year).
 - g. Paint usage in paint spray booth (gallons/day) and VOM content of each paint, as applied (pounds/gallons).
17. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
18. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedances or violation and efforts to reduce emissions and future occurrences.
19. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
1340 North Ninth Street
P.O. Box 19276
Springfield, IL 62794-9276

and one (1) copy shall be sent to the Illinois EPA regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
9511 West Harrison
Des Plaines, Illinois 60016

20. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:
- a. Ethylene oxide usage in the sterilizers (tons/year);
 - b. The amount of medical/infectious and total amount of waste burned in the incinerator (tons/year);
 - c. Natural gas usage (mmcf/year);
 - d. Fuel oil usage in the boilers and diesel/generators (gallons/year);

- e. Operating hours of the natural-gas fired generator (hours/year);
- f. Isopropyl alcohol usage for the extrusion lines and the filter integrity testing (gallons/year).

Please note that fuel oil storage tank and plastic granulator are exempt from state permit requirements pursuant to 35 Ill. Adm. Code 201.146(n)(3) and (aa), respectively.

If you have any questions on this permit, please call Valeriy Brodsky at 217/782-2113.

Donald E. Sutton, P. E.
Manager, Permit Section
Division of Air Pollution Control

DES:VJB:

cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the source operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from the source. The resulting maximum emissions are well below the levels, (e.g., 100 tons/year for nitrogen oxides (NO_x) and 25 tons/year for volatile organic material (VOM)) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that control measures are more effective than required in this permit.

1. Ethylene oxide usage and emissions of volatile organic material (VOM) from the three ethylene oxide sterilizers shall not exceed 1 ton/year. Compliance with annual limits shall be determined on a running total of 12 months of data.
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4. Usage of Isopropyl Alcohol in the polypropylene extrusion lines and filter integrity testing operations and VOM emissions shall not exceed 2.0 ton/month and 11.2 tons/year. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.
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VJB: